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ANALYTICAL APPROXIMATIONS

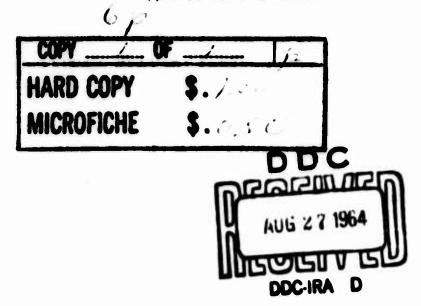
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Cecil Hastings, Jr. James P. Wong, Jr.

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Chi-Square Integral: To better than .0012 over

 $0 \le x \le 0$  for m = 8.

$$F_{m}(x) = \frac{1}{2 \sqrt{\left(\frac{m}{2}\right)}} \int_{0}^{x} \left(\frac{t}{2}\right)^{\frac{m}{2}} e^{-\frac{t}{2}} dt$$

 $= .0020785x^4 - .60059482x^5$ 

+  $.000003072x^{0}$  -  $.0000024544x^{7}$ .

Chi-Square Integral: To better than .000 $^{\circ}$  over

$$F_{m}(x) = \frac{1}{2/(\frac{m}{2})} \int_{0}^{x} (\frac{t}{2})^{\frac{m}{2}-1} e^{-\frac{t}{2}} dt$$

 $= .0066063x^{7/2} - .0019840x^{9/2}$   $+ .60023041x^{11/2} - .0000098514x^{13/2}.$ 

Chi-Square Integral: To better than .00055 over

 $0 \le x \le u$  for m = 6.

$$\hat{r}_{m}(x) = \frac{1}{2 / \left(\frac{m}{2}\right)} \int_{0}^{x} \left(\frac{t}{2}\right)^{\frac{m}{2} - 1} e^{-\frac{t}{2}} dt$$

 $\pm .019283x^3 - .0060071x^4 + .00075727x^5 - .000030258x^6$ .

Chi-Square Integral: To better than .00035 over

 $0 \le x \le 5$  for m = 5.

$$F_{m}(x) = \frac{1}{2\Gamma(\frac{m}{2})} \int_{0}^{x} (\frac{1}{2})^{\frac{m}{2} - 1} e^{-\frac{1}{2}} dt$$

 $= .051288x^{5/2} - .016244x^{7/2} + .0022143x^{9/2} - .00011981x^{11/2}.$ 

Chi-Square Integral: To better than .00016 over

 $0 \le x \le 4$  for m = 4.

$$F_{m}(x) = \frac{1}{2 \int \left(\frac{m}{2}\right)} \int_{0}^{x} \left(\frac{t}{2}\right)^{\frac{m}{2}} - 1 e^{-\frac{t}{2}} dt$$

 $= .12333x^2 - .038469x^3 + .0056190x^4 - .00034739x^5$ .